

EVT0003512

Specifications

FT-IR Spectrometer

Optical System

The optical system must be sealed and desiccated to protect the instrument from humidity and solvent vapors. It must have a self-compensating, dynamically aligned interferometer to remove any tilt and shear scanning error. It must automatically tune for best throughput and provide analysis speed for real time survey or screening. The optics must be diamond turned, and be pinned-in-place alignment-free.

Detector

- Fast recovery deuterated triglycine sulfate (DTGS)

Source

- Mid-infrared Ever-Glo and tungsten/halogen and user replaceable

Humidity and Vapor Protection

- Rechargeable desiccant cartridge
- Humidity indicator
- Multi-zone pressure system for optional purge.

Frequency Calibration

- HeNe laser tube that does not require software optimization or calibration.

Spectrometer Performance Validation

- Validation wheel integrated with NG-11 and NIST traceable polystyrene film standards, serialized.
- Available System Performance Verification (SPV) software and programmable tasks interface

Samples

- Samples measured directly through vials, with the integrating sphere conveniently mounted
- Powder and liquid auto samplers
- Able to identify unknowns with a spectra database of at least 9000 and a multi-component search routine

Electronics

- 24-bit analog to digital converter;
- Digital signal processor for spectrometer monitoring and software integrated controls
- Integrated scan button panel including LED control status for source, laser and interferometer
- USB 2.0 high-speed bidirectional communication
- Smart accessory automatic recognition, parameter setting and spectral quality monitoring
- Enhanced synchronization protocol continuously monitors power supply, laser, source and detector.

Performance Specifications

- 7800-350 cm^{-1} optimized mid-infrared KBr beamsplitter.
- 11000-375 cm^{-1} XT KBr extended range mid-infrared optics.
- Signal to noise:
10000:1 peak to peak in five seconds
35000:1 peak to peak in one minute
- Room temperature, KBr optics, DTGS detector, 4 cm^{-1} spectral resolution
- Wavelength precision: better than 0.01 cm^{-1} at 2000 cm^{-1}
- Collection speed: variable from 0.16 cm/sec to 2.5 cm/sec ; suitable to slow responsivity (PAS)
- Maximum speed: 40 spectra per second at 16 cm^{-1} resolution, individually collected and stored
- Spectral resolution: better than 0.4 cm^{-1} , non-apodized
- Ordinate linearity (ASTM E1421); <0.1% T deviation from 0.0% T, measured at 4 cm^{-1} resolution

Computer System

- Intel Core i5-3550 processor (3.3 GHz) or equivalent
- 8 GB RAM 1600MHZ DDR3
- 1 TB Hard Drive with 32MB DataBurst Cache
- 16X DVD+/RW, Data Only
- Integrated Audio and Internal Speaker
- Audio Ports: Line-In, Line-Out
- Comm Ports: Six External USB 2 Ports, Four External USB 3 Ports, 1 Serial Port, 1 VGA Port, 2 Display Ports
- 4 Expansion Slots: 1 Full Height PC1, 1 Full Height PC1e X 1, 2 Full Height PC1e x 16
- Chassis Intrusion switch
- RoHS Compliant Lead Free Chassis and Motherboard
- 3 Year Support Plan on Workstation
- 19" or larger Flat Panel Monitor with Signal Input, DVI-D and VGA with 3 year Support Plan
- Color Printer with 3 year Support Plan

Dimensions

- Size: 550 mm x 570 mm x 250 mm (W x D x H) maximum
- Weight: 40 Kg maximum
- Regulatory Approvals: CE, ETL

Warranty

- 1 year on complete system